

Application No. 10/046,374
Reply to Office Action of Jan. 23, 2004

REMARKS

After the foregoing Amendment, claims 1-12, as amended, are pending in this application. Claim 1 has been amended at lines 8 and 14, and claim 12 been amended at line 3 to correct typographical errors, so as to place claims 1 and 12 in better form for appeal.

Applicants respectfully request that the Amendment After Final be entered in accordance with 37 CFR §1.116 and MPEP 714.13 since: (1) no new matter has been added to the application by the Amendment; (2) the Amendment resolves all issues raised by the Examiner in the Final Office Action; (3) the subject matter of the Amendment already has been included in the Examiner's search and therefore does not require the Examiner to perform further searching; (4) the Amendment places the application in condition for allowance or in better form for appeal and (5) the Amendment does not result in a net addition of claims to the application. Applicants submit that no new matter has been added to the application by the Amendment.

Rejection - 35 U.S.C. § 103

The Examiner rejected claims 1-12 under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 4,334,221 (hereafter "Rosen") and further in view of U.S. Patent No. 6,151,318 (hereafter "Wood"). The Examiner states that Rosen teaches all the limitations of claim 1 except for the uninterrupted stream of packets. The Examiner further states that Wood teaches a certain packet structure delivery system using a continuous stream of packets to increase the speed of delivery and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rosen with an uninterrupted packet stream taught by Wood to reduce latency and increase efficiency. For the reasons stated below, Applicants respectfully traverse the rejection.

Claim 1

Original claim 1 recited and still recites, *inter alia*, a communication system from a remote control to a toy vehicle where control signal packets are continuously transmitted with

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"each control signal packet, other than the first packet, immediately following the preceding packet in time".

The Examiner has mischaracterized Wood

The Examiner has stated that Rosen does not disclose an uninterrupted stream of control packets but Wood teaches a packet structure delivery system using a continuous stream of packets. Applicants respectfully submit that the Examiner has mischaracterized Wood insofar as Wood does not teach, suggest or disclose transmitting control signal packets immediately following each other in time.

Wood discloses a system for encapsulating asynchronous transfer mode (ATM) cells into satellite data packets. As well known, ATM cells are 53 bytes (424 bits) long and are generated (received) asynchronously. As described at col. 1, lines 12-34, broadband satellite channels generally use packet lengths greater than 53 bytes and are generated synchronously. Accordingly, there is a mismatch between both the size and timing of the ATM and satellite packets.

According to Wood, when transmitting ATM cells over satellite links it is desirable to fully utilize the channel capacity. Consequently, Wood describes a buffer/formatter (Fig. 4) which is capable of receiving ATM cells arriving asynchronously from multiple sources at the buffer/formatter and encapsulating them into the payload segment of successive satellite packets so as to maximally utilize the available satellite bandwidth.

As described at col. 3, lines 6-28, ATM cells (the control packets at issue) may flow in a continuous stream or may have variable time gaps between them. (col. 3, lines 23-26). In the case where the ATM cells are not continuous, Wood teaches placing the ATM cells into separate satellite data packets (col. 3, lines 24-26). Thus, the ATM cells are not transmitted immediately following each other in time within a satellite packet except when they arrive continuously. Further, as shown in the diagrams, even when the ATM cells arrive continuously, where the quantity of the ATM cells exceeds the size of a data packet payload, the ATM cells must be placed in successive satellite data packets. Since each satellite data packet has at least a

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fragment type segment preceding each payload segment, where the number of ATM cells exceed the capacity of the payload of one satellite data packet, the ATM cells will, necessarily, not immediately follow each other in time, since they will always be separated by at least the fragment type segment. Since, as stated at col. 4, lines 11-23, the number of packets "are measured in the millions", discontinuities in the transmission of the ATM cells (control packets) would be the norm.

Modifying Rosen by Wood impermissibly renders Rosen unsatisfactory for its intended purpose.

"If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *MPEP 2143.01*, 2100-127, Feb 2003.

Rosen is directed to a radio control system for a multi-controller, multi-vehicle independently controlled toy vehicle system (Abstract). Each of a plurality of control sets repetitively and asynchronously transmits low duty cycle command bursts whereby mutual overlap of command bursts from the plurality of control sets is reduced. Rosen expressly states: "The duty ratio of ON time to OFF time should be less than ten percent and preferably less than five percent." (see col. 4, lines 52-54).

The modification suggested by the Examiner of Rosen by Wood to incorporate a continuous stream of packets without a quiescent period, as stated on pages 2 and 5 of the Office action, would be in direct opposition to Rosen's stated objective (col. 1, lines 35-39) and cause an unacceptable amount of mutual interference between control sets. Consequently, the modification of Rosen by Wood would render the invention of Rosen unsatisfactory for its intended use of simultaneously yet independently controlling multiple vehicles from the plurality of control sets.

Modifying Rosen by Wood impermissibly changes Rosen's principle of operation.

"If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the

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references are not sufficient to render the claims *prima facie* obvious." *MPEP 2143.01*, 2100-127, Feb 2003.

As described above, Rosen relies on asynchronous, low duty ratio transmissions from each of a plurality of control sets to avoid mutual interference between the control sets. If Rosen were modified to utilize a continuous stream of packets without quiescent periods, the principle of Rosen's operation would be substantially changed, necessitating entirely different modulation and coding techniques in order to provide for satisfactory independent operation of multiple vehicles from the plurality of control sets.

Wood is not analogous prior art.

"In order to rely on a reference as a basis for rejection of an applicants' invention, the reference must either be in the field of applicants' endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *MPEP 2141(a)*, page 2100-117, Feb. 2003.

The United States Patent and Trademark Office (USPTO) has classified the present invention in U.S. Class 446, Amusement Devices: Toys. Rosen has been classified in U.S. class 340, Communications: Electrical. Wood has been classified in class 370, Multiplex communications. Clearly, the USPTO has not classified the present invention in the same fields as either of the references Rosen and Wood.

Applicants do not dispute that Rosen would be pertinent to the particular problem of which the inventor was concerned, being a communications system related to controlling toy vehicles. However, Applicants submit that Wood would not be pertinent to the inventor's problem. As recognized by the USPTO, Wood discloses a multiplexing system. More specifically, Wood teaches a method for encapsulating ATM cells into larger data packets to be broadcast through broadband communications systems such as satellite systems. The process of encapsulating small packets into large packets is not pertinent to the inventor's problem as follows.

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The present invention is a single channel communication system utilizing a relatively simple data structure suitable for economical implementation in a toy vehicle control system. Wood is a highly sophisticated multiplex system disclosed in the context of broadband, multiple channel, data communications using sophisticated data protocols such a ATM. Accordingly, Applicants submit that the reference Wood would not have commended itself to the inventors attention in considering the problem of communicating commands to a toy vehicle over a single channel communication link because: (1) the buffer control taught by Wood is irrelevant to inventor's problem and (2) because the complexity of the method and structure taught by Wood is inappropriate to the control of a toy vehicle.

There is no teaching or suggestion in the references to make the modification suggested by the Examiner

"Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." *MPEP 2143.01*, page 2100-125, Feb. 2003.

Rosen teaches a communication system in which control signals are transmitted asynchronously with a low duty cycle. Wood teaches a method of multiplexing appropriate to encapsulating packets of one length into packets of a different length. There is no teaching or suggestion in Rosen to utilize an uninterrupted stream of control packets for communication between the control set and the vehicle such as the Examiner represents Wood. Neither is there any teaching or suggestion in Wood to apply the data multiplexing/encapsulation technique to the single channel communication links using fixed length data bursts described by Rosen.

If there is any suggestion from Wood it is to provide a buffer between the individual control sets and the vehicles to receive and assemble the asynchronously arriving control packets from the plurality of control sets to broadcast bundles of the control packets to one or more vehicles. The actual suggestion of Wood is unrelated to the claimed invention and

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irrelevant to Applicants' problem and solution. Even if there was justification for the combination, the specific combination proposed by the Examiner still does not satisfy the claim language.

The combination of Rosen and Wood does not teach or suggest all the claim limitations.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." *MPEP 2143.03*, page 2100-128, Feb, 2003.

As described above, Wood teaches encapsulating the ATM cells into successive satellite data packets in which the ATM cells are separated by at least a fragment segment. Amended claim 1 requires, placing each control signal packet, other than the first packet, immediately following the preceding packet in time. Wood does not teach or suggest the aforementioned limitation. Accordingly, even if Rosen were modified by the teachings of Wood, the combination, as described by the Examiner, would not teach or suggest all the limitations of amended claim 1.

Applicants, for all the above reasons, submit that the combination of Rosen and Wood does not make amended claim 1 obvious. Accordingly Applicants respectfully request reconsideration and withdrawal of the §103 rejection of claim 1.

Claims 2-12

It is respectfully submitted that since amended claim 1 has been shown to be allowable, claims 2-12 dependent on amended claim 1 are allowable, at least by their dependency. Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103 rejection of claims 2-12.

CONCLUSION

Insofar as the Examiner's rejections have been addressed, the application is in condition for allowance and Notice of Allowability of claims 1-12 is therefore earnestly

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solicited. Should the Examiner choose to issue an advisory action, Applicants respectfully request that prior thereto, the Examiner telephone the undersigned at the telephone number indicated to discuss the application.

Respectfully submitted,

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(Date)

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